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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Niki S. Woodhead

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EXAMINER

GARCIA, ERNESTO

ART UNIT

PAPER NUMBER

3679

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,875	Applicant(s) WOODHEAD ET AL.	
	Examiner ERNESTO GARCIA	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2009 and 18 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 4-7 and 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 13, 14, 16, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2009 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 19, 2009 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Restriction

Claims 4-7 and 9-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 23, 2009.

Drawings

The drawings were received on June 19, 2009. These drawings are not accepted because the changes are made relative to the original figures which contained drawings objections which have been previously corrected. Accordingly, the replacement sheets should be made relative to those drawings filed on April, 14, 2008.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the gap between the ends of the strip (claim 16) must be shown or the feature canceled from the claim. No new matter should be entered. Note the subject matter of claim 16 has never been shown.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "the unformed annular portions include an endmost annular portion" recited in claim 1, line 5, and "a free end of the guide portion defines an axial end of the tolerance ring and an opening that (i) is larger than that defined by the unformed annular portions of the band, and (ii) has a diameter at said free end that is not greater than the diameter of the protrusions" recited in claim 1, lines 14-19, and "the guide portion is provided at only one end of the annular band" recited in claim 22, lines 1-2.

Claim Objections

Claim 1 is objected to because of the following informalities:

regarding claim 1, the first occurrence of "the" in line 4 should be deleted and "an" in line 10 should be --the--. Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

Claim Rejections - 35 USC § 112

Claims 8, 21, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 8 and 21, the recitation "an endmost unformed annular portion of the band" in line 8 makes unclear whether this is one of the unformed annular portions of the band recited in lines 3-4, or a third unformed annular portion. For purposes of this Office action, the examiner has considered the endmost unformed annular portion being one of the unformed annular portions.

Regarding claim 22, the claim depends from claim 21 and therefore is indefinite.

Claim Rejections - 35 USC § 103

Claims 1-3, 8, 13, 14, 16, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer, Jr. et al., 4,790,683, in view of Stihl, GB-1,376,563.

Regarding claim 1, Cramer, Jr. et al. disclose, in Figures 1 and 2, a tolerance ring comprising a band **10** of resilient material. The band **10** has a plurality of protrusions **16** formed therein. All of the protrusions **16** extend radially between unformed annular portions **A1**, **A2** of the band (see marked-up attachment). The corrugated protrusions **16** form a protrusion load bearing area. The unformed annular portions **A1**, **A2** form unformed annular portion load bearing area. The unformed annular portions **A1**, **A2** include an endmost unformed annular portion **A1**. However, Cramer, Jr. et al. fail to disclose a guide portion being contiguous with and extends axially and radially outward from the endmost unformed annular portion **A1**; the guide portion comprises at least one guide surface contiguous with the unformed annular portion load bearing area and inclined relative to an axis of the band **10** in the same radial direction as the protrusion; and a free end of the guide portion defining an opening larger than that defined by the unformed annular portions **A1**, **A2** of the band **16**, and the free end defining a diameter that is not greater than the diameter of the protrusions.

Stihl teaches a tolerance ring having a guide portion (the flared near 22) to permit entry of a component into the ring (page 2, lines 51-85, and page 3, line 3-7). One

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skilled in the art would have placed the guide portion contiguous with the unformed annular portion load bearing area so that a shim **12** in Cramer, Jr. et al. would be easier to be inserted into the ring. Therefore, as taught by Stihl, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a guide portion at one end of the annular band to permit easier entry of the shim in Cramer, Jr. et al. Given the modification, the guide portion would have been contiguous with and extend axially and radially outward from the endmost unformed annular portion **A1**. The guide portion would have comprised at least one guide surface contiguous with the unformed annular portion load bearing area and inclined relative to the axis of the band in the same radial direction as the protrusion found in Cramer, Jr. et al. Further, a free end of the guide portion would have defined an opening larger than that defined by the unformed annular portions **A1**, **A2** of the band, and the free end would have defined a diameter that is not greater than the diameter of the protrusions since the free end would not be greater than the internal diameter of the shim **12**.

Regarding claim 2, given the modification, the angle of inclination of the guide surface relative to the axis would have been constant along the length of the guide surface.

Regarding claim 3, given the modification, the guide portion would have extended from the whole circumference of the band.

Regarding claim 8, Cramer, Jr. et al. disclose, in Figures 1 and 2, a tolerance ring comprising an annular band **10** of resilient material having an innermost surface and an outermost surface. The innermost surface is defined by unformed annular portions and the outermost surface is defined by radial protrusions **16** formed in the annular band. Each protrusion **16** extends radially outward between a pair of the unformed annular portions **A1**, **A2**. However, Cramer, Jr. et al. fail to disclose a guide portion at one end of the annular band and being contiguous with and extends axially from an endmost unformed annular portion and comprising a guide surface which is contiguous with and flares outwardly from the innermost surface, and the guide portion extending from a whole circumference of the band.

Stihl teaches a tolerance ring having a guide portion (the flared near 22) at one end of the annular band to permit entry of a component into the ring (page 2, lines 51-85, and page 3, line 3-7). One skilled in the art would have placed the guide portion contiguous with the unformed annular portion so that a shim **12** in Cramer, Jr. et al. would be easier to be inserted into the ring. Therefore, as taught by Stihl, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a guide portion at one end of the annular band to permit easier entry of the shim in Cramer, Jr. et al. Given the modification, the guide surface would have been contiguous with and flared outwardly from the innermost surface, and the guide portion would have extended from a whole circumference of the band.

Regarding claim 13, given the modification, the guide portion would have been sufficiently smooth.

Regarding claim 14, given the modification, the unformed annular portion load bearing area would have been sufficiently sized to prevent torque ripple.

Regarding claim 16, given the modification, the band **16** would have formed from a strip of resilient material curved into a substantially annular shape with a gap between ends of the strip.

Regarding claim 21, Cramer, Jr. et al. disclose, in Figures 1 and 2, a tolerance ring comprising an annular band **10** of resilient material having an innermost surface defined by a plurality of unformed annular portions **A1**, **A2** and an outermost surface defined by a plurality of radial protrusions **16** formed in the annular band **10**. The radial protrusions have a diameter. Each protrusion **16** extends radially outward between a pair of the unformed annular portions **A1**, **A2**. However, Cramer, Jr. et al. fail to disclose a guide portion, at one end of the annular band, being contiguous with and extending axially and radially outward from one of the unformed annular portions, and comprising a guide surface which is contiguous with and flares outwardly from the innermost surface, and the guide portion having a free end defining an opening that has a diameter not greater than the diameter of the unformed annular portions.

Stihl teaches a tolerance ring having a guide portion (the flared near 22) at one end of the annular band to permit easier entry of a component into the ring (page 2, lines 51-85, and page 3, line 3-7). One skilled in the art would have placed the guide portion contiguous with the unformed annular portion so that a shim **12** in Cramer, Jr. et al. would be easier to be inserted into the ring. Therefore, as taught by Stihl, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a guide portion at one end of the annular band to permit easier entry of the shim in Cramer, Jr. et al. Given the modification, the guide portion, at one end of the annular band, would have been contiguous with and extending axially and radially outward from one of the unformed annular portions, the guide portion would have comprised a guide surface contiguous with and flaring outwardly from the innermost surface, and the guide portion would have had a free end defining an opening that has a diameter not greater than the diameter of the unformed annular portions.

Regarding claim 22, given the modification, the guide portion would have been provided at only one end of the annular band and the second end of the annular band would have been defined by an unformed annular portion of the unformed annular portions.

Response to Arguments

Applicant's arguments with respect to claims 1-3, 8, 13, 14, 16, 21, and 22 have been considered but are moot in view of the new ground of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Applicants' admitted prior art, Figure 1, in view of Stihl, GB-1,376,563, would have also taught the same rejection. Further, Bowden, 1,469,880, in view of applicant's own disclosure would have suggested not placing the corrugations entirely along the entire longitudinal extremities of the ring. One would have placed the projections intermediate the entire ring thus creating two undeformed portions and a guide portion continuous with one of the undeformed portions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-272-7083. The examiner can normally be reached from 9:30AM-6:00PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Victor MacArthur/
Primary Examiner, Art Unit 3679

/E. G./

Examiner, Art Unit 3679

June 22, 2009

Attachment(s): one marked-up page of Cramer, Jr. et al., 4,790,683

